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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/522,030	01/21/2005	Robert Edward Critoph	1096-009US01	1516

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SHUMAKER & SIEFFERT, P. A.
1625 RADIO DRIVE
SUITE 300
WOODBURY, MN 55125

EXAMINER	
NALVEN, EMILY IRIS	
ART UNIT	PAPER NUMBER
3744	

NOTIFICATION DATE	DELIVERY MODE
09/18/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

pairdocketing@ssiplaw.com

Office Action Summary	Application No.	Applicant(s)	
	10/522,030	CRITOPH ET AL.	
	Examiner	Art Unit	
	Emily Iris Nalven	3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 June 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *6/23/08*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

Receipt of Applicant's remarks filed on June 23, 2008 is acknowledged.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 1-2 and 4-10** are rejected under 35 U.S.C. 102(b) as being anticipated by Pfister, et al. (US Patent No. 6,415,627).

In regard to claim 1, Pfister, et al. teach a sorption module (12, 16, 18, 38, 42 in combination – see Fig. 1) comprising a generator section (16,12 in combination) connected via a first passage (through 44) to a condenser section (38) wherein the module (12, 16, 18 in combination) contains a sorbent material (col 5 lines 2-3) within its generator section (16, 12) (col 6 lines 58-61) and a quantity of sorbate fluid characterized in that that the condenser section (38) is connected by second passage (through 46) to an evaporator section (42), the generator (16, 12) and evaporator (42) sections being so arranged such that liquid in the condenser section (38) is encouraged to flow to the evaporator secion (42) and discouraged from flowing to the generator section (16, 12) (see Fig. 1, check valve forces the liquid to flow from the condenser (38) to the evaporator (42) via the flow control valve (48).

Pfister, et al. also teach the quantity of sorbate fluid and pressure within the module (12, 16, 18 in combination) is such that when the sorbent material is saturated with absorbed sorbate and at its lowest anticipated operating temperature, the evaporator section (42) is substantially filled with sorbate liquid (col 5 lines 57-67 and col 6 lines 1-39).

In regard to claim 2, Pfister, et al. teach the sorption module (12, 16, 18 in combination) characterized in that the evaporator section (42) is located below the condenser section (38) (see Fig. 17 and Fig. 27) and the second passage is downwardly extending whereby liquid in the condenser section (38) (see Fig. 17) whereby liquid in the condenser section (38) is encouraged to flow into the evaporator section (42) under action of gravity (see Fig. 17).

In regard to claim 4, Pfister, et al. teach the condenser is surrounded by heat conducting fins (col 5 line 67 and col 6 lines 1-3).

In regard to claim 5, Pfister, et al. teach the sorption module characterized in that the generator section (16, 12) has an external arrangement of heat conducting fins (232) (see Fig. 18).

In regard to claim 6, Pfister, et al. teach the sorption module characterized in that the generator section (16, 12) has an internal arrangement of heat-conducting fins (98) with one or more voids (col 13 lines 12-14) sufficient to permit gas transport therebetween (col 13 lines 12-17).

In regard to claim 7, Pfister, et al. teach the sorption module characterized in that the sorbent material (104) is solid and packed between the internal fins (98) (col 13 lines 12-14).

In regard to claim 8, Pfister, et al. teach the sorption module wherein the sorbent material is liquid and the first passage extends upwardly within the sorbent tube, its opening being located above the uppermost level of liquid sorbet (col 7 lines 4-6).

In regard to claim 9, Pfister, et al. teach the sorption module characterized in that the sorbent material is a metal halide (col 4 lines 60-61).

In regard to claim 10, Pfister, et al. teach the sorption module characterized in that the sorbate fluid is ammonia (col 4 line 60).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. **Claim 3** is rejected under 35 U.S.C. 103(a) as being unpatentable over Pfister, et al. (US Patent No. 6,415,627) in view of Basiulis (US 3,884,296).

In regard to claim 3, Pfister, et al. teach the first and second passages (see Fig. 1) but does not explicitly teach that they are adiabatic. Basiulis teaches an adiabatic heat pipe (see Abstract and Fig. 1) with a condenser section (12) (col 3 lines 3-4). It would have been obvious to one of ordinary skill in the art at the time

of the invention to place an adiabatic pipe as taught by Basiulis in place of the pipes as taught by Pfister, et al. in order to prevent the loss or gaining of heat to the liquid of the system which would impact the system's performance.

5. **Claim 11** is rejected under 35 U.S.C. 103(a) as being unpatentable over Pfister, et al. (US Patent No. 6,415,627).

In regard to claim 11, Pfister, et al. teach the sorption module characterized in that it further in that it further includes a porous plug (68) (made by hole 96 – see Fig. 4 and col 13 lines 3-5) of inert material (col 14 lines 53-55) but does not explicitly teach that this plug is within the second passage. It would have been obvious to one of ordinary skill in the art at the time of the invention to place the plug as taught by Pfister, et al. in the second passage to control the flow of liquid from the condenser to the evaporator and prevent any excess heating or cooling from conducting across the passage in the event of a system malfunction.

Response to Arguments

6. Applicant's arguments filed on June 23, 2008 have been fully considered and are not persuasive in regard to claims 1-2 and 4-11 . Additionally, the Applicant argues that Pfister, et al. does not teach the limitation of independent claim 1 that a sorption material is saturated with adsorbed or absorbed sorbate and at its lowest operating temperature, the evaporator section is substantially filled. However, Pfister, et al. do teach that at a desired temperature the evaporator is substantially filled with sorbate (col 5 lines 57-67). The evaporator (42) is designed to have sorbate at a specific operating temperature including the lowest, thus meeting the metes and bounds of the claim

Comment [F1]: Please reconsider this statement since you are still using Pfister et al to reject the claim. It appears that applicant's argument regarding Pfister are not persuasive.

limitations. The Applicant continues to argue that in examples 1, 2 and 3 sorbate is removed from the evaporatore, and thus the evaporator is not substantially filled with sorbate. However, at a specific point, the operating temperature is at a minimum. The Applicant does not claim that the sorbate must remain in the evaporator at the lowest operating temperature for a prolonged period of time and thus there is no prohibition for the sorbate to leave the evaporator.

Additionally, the Applicant contends that Pfister, et al. fail to teach a sorbtion module comprising a generator section connected via a first passage to a condenser section, and the condenser section is connected by a second passage to an evaporator section. As seen in Fig. 1 the line through valve 44 is the first passage, and the line through valve 46 is the second passage. The Applicant also argues that the generator, condenser and evaporator are separate and interconnected units. However, independent claim 1 specifically states a "sorption module comprising a generator section connected via a first passage to a condenser section." The condenser is part of the module as seen in Fig. 1. Additionally, as seen in Fig. 1, the condenser, evaporator and generator are arranged and interlinked so that liquid is capable of flowing between these sections.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emily Iris Nalven whose telephone number is (571)272-3045. The examiner can normally be reached on Monday - Thursday 8 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisors, Cheryl J. Tyler can be reached on 571-272-4834 or Frantz Jules can be reached on 571-272-6681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Emily Iris Nalven
September 11, 2008
Examiner, Art Unit 3744

/Frantz F. Jules/

Supervisory Patent Examiner, Art Unit 3744